

Weatherization Savings Peak in Alaska

The thrill of climbing North America's highest peak attracts nearly 1,200 mountaineers to Alaska's Mt. McKinley each year. To reach the summit, climbers endure blinding snow, hurricane gusts, and wind chills that exceed -100 degrees Fahrenheit. Alaska's typical weather seems almost tame in comparison. However, many low-income families cannot afford to properly heat and maintain their homes, and they are particularly vulnerable to Alaska's harsh elements. To alleviate this situation, Alaska partners with the U.S. Department of Energy (DOE) to implement the Weatherization Assistance Program (Weatherization). Weatherization reduces energy costs for low-income families by increasing the energy efficiency of their homes, while ensuring their health and safety.

Low-income households typically spend 14% of their total annual income on energy, compared with 3.5% for other households. This energy burden becomes more unmanageable when energy prices soar or temperatures plummet. Low-income families often have to cut back on other necessities to pay their energy bills. Weatherization reduces home energy consumption, which provides a permanent boost to the household's budget. The measures installed protect against future changes in energy prices and supply. Weatherization helps low-income families to maintain their self-sufficiency.

The Alaska Housing Finance Corporation administers the Weatherization Program and five local agencies deliver services to eligible residents across the state. Alaska leverages core DOE dollars with funding from the state, utilities, and other organizations to service more homes. In 1999, Alaska weatherized 802 homes with DOE funds and an additional 1,752 homes with leveraged funds. Since the inception of the program, nearly 30,000 Alaska families have been served.

NATIONAL WEATHERIZATION PROGRAM

Homes weatherized in 1999	68,000
DOE allocations in 1999	\$135 million
Average annual energy cost savings per household	\$300
Average space heating savings	25-30%
Energy benefits returned for every \$1 invested	\$2.10
Jobs supported	7,000

ALASKA

Homes weatherized in 1999 (with DOE \$)	802
DOE funding in 1999	\$995,827
Clients served in 1999	2,477
Elderly	8%
People with disabilities	9%
Families with children	19%

UNIQUE APPROACH FOR UNIQUE CONDITIONS

Conditions on Mt. McKinley change constantly and climbers must assess the unique characteristics present at the time of ascent to determine the best route. Because Alaska's housing stock and energy supply varies dramatically by region, Weatherization takes a "whole-house" approach to determine the appropriate measures for each home.

Weatherization crews use a computerized energy audit to determine the most cost-effective measures for each home. Diagnostic tools, like a blower door, manometer, and infrared camera, are used to detect and mitigate air infiltration, duct leaks, and pressure imbalances. Crews also test heating systems and appliances for combustion safety and carbon monoxide, an odorless, colorless gas that can be deadly in large quantities. Weatherization crews replace nearly 500 unsafe heating systems each year.

Alaska crews also identify and mitigate moisture problems related to poor ventilation and air flow. Excessive moisture can cause structural damage to the home and ruin installed measures. It can also lead to mold and mildew growth, a potential health hazard to the home's occupants.

Typical weatherization measures include blowing insulation in the floor, walls, and ceiling; repairing and sealing ducts, doors, and windows; and tuning and repairing heating systems. Crews install a smoke detector in each home and educate clients on basic energy efficiency practices.

In rural Alaska, adequate, affordable housing is extremely limited. Excessive freight and labor costs together with extreme temperatures make the conventional Weatherization Program difficult to implement in these areas. To address this challenge, Alaska developed the Residential Energy Rehabilitation Program using DOE and leveraged funds. This program serves four villages a year and provides extensive rehabilitation work, which dramatically reduces energy consumption and extends the useful life of the home. The \$15,000 average cost of rehabilitation is far less than the cost of constructing a new home.

VIEW FROM THE TOP

Weatherization preserves a family's self-sufficiency by providing a hand-up, not a handout. Kathleen King*, a divorced mother of two, realized she could no longer afford her growing energy bill. She contacted Interior Weatherization, a local agency, for help. The crew ran an

audit and installed extensive weatherization measures throughout the home.

In a letter of thanks, Kathleen remarked, "Not only did you do a wonderful job, but you were also very kind and courteous to my children and me. I could tell that you really cared about the job... This program is not just a fuel handout, but it permanently

reduces fuel consumption...[and] it enables people like me to have enough heat until the next paycheck."

Weatherization creates benefits for the community as well. The small town of Selawik experienced a fuel shortage every winter, which required a plane to deliver emergency fuel. After the 53 eligible homes were weatherized, Selawik never needed emergency fuel assistance again.

WEATHERIZATION WORKS!

Weatherization produces an impressive range of benefits for low-income households and communities. Nationally, for every \$1 invested in the program, Weatherization returns \$2.10 in energy-related benefits. Weatherization measures curb national energy consumption and reduce the nation's dependence on imported oil. Weatherization works for Alaska and America!

**Names have been changed to protect the privacy of the subjects.*



Before weatherization, warm air leaks caused ice dams, hazardous icicles, and structural damage in this low-income home.



TO LEARN MORE ABOUT THE WEATHERIZATION ASSISTANCE PROGRAM, CONTACT:

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Visit the Weatherization Web site at: www.eren.doe.gov/buildings/weatherization_assistance
or call the Energy Efficiency and Renewable Energy Clearinghouse at: 1-800-DOE-3732



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